

Notice of Allowability

Application No.

09/468,537

Examiner

Hugh Jones

Applicant(s)

MILLER ET AL.

Art Unit

2128

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/9/2003; 11/26/2003; 6/21/2004.
2. ☒ The allowed claim(s) is/are 1-24.
3. ☒ The drawings filed on 20 December 1999 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 7, 11, 6/21/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____.
7. ☐ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____.

HUGH JONES Ph.D.
PRIMARY PATENT EXAMINER
TECHNOLOGY CENTER 2100

DETAILED ACTION

Introduction

1. Claims 1-24 of U.S. Application 09/468,537, filed 12/20/1999 are pending.

Allowable Subject Matter

2. Claims 1-24 are allowed over the prior art of record.
3. The following is an examiner's statement of reasons for allowance: **PowerFlow™** (vol. 4.0, 1998) discloses the use of **PowerFLOW** at **Ford Motor Company. Ford Motor Company**, an early user of **PowerFLOW** for external flow aerodynamics and aeroacoustics studies, *has expanded its use of PowerFLOW to include internal flow applications*. Ford's Manufacturing and Vehicle Design Laboratory researches analysis tools that may help them produce advanced-engineered autos in a faster time frame. This department is using **PowerFLOW** to simulate internal flows through critical applications such as paint processes, water cooling jackets and engine transmissions. **PowerFLOW** is helping to optimize the design process as it effectively reduces meshing times to a fraction of what they were previously. Applicants admit (page 7, specification) that **POWERFLOW** automatically performs autogriding and simulation. **PowerFlow™** ("Fluid flow for competitive design"; see http://www.com.pdf/Exa_Brochure_98.pdf - 1998, numbered pages 1-11) disclose: transient and steady state analysis (pp. 3-4); user control over timesteps and measurements (pg. 3); fully automatic grid generation (pp. 4, 6); valve simulation (pg. 6); import templates (pg. 7); engine simulation (pp. 7, 11); interfaces with Nastran and Ansys (pg. 8); **PowerFlow™** does not expressly

Art Unit: 2128

disclose automatically terminating the simulation once steady state conditions have been reached in the simulation. Saleh et al. disclose terminating a simulation once the transient phase of a simulation has been completed and the steady state phase begun. See fig. 9 (# 90) and corresponding text. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the PowerFlow teaching to incorporate the feature of terminating the simulation once steady state conditions have been reached because 1) it is inherent that the simulation must be terminated at some point, 2) no new information would be gained by continuing the simulation and 3) expensive computational assets would be wasted if the simulation were to be continued. Official notice was taken that it would have been obvious to one of ordinary skill in the art at the time of the invention to terminate the simulation once steady state conditions have been reached because 1) it is inherent that the simulation must be terminated at some point, 2) no new information would be gained by continuing the simulation and 3) expensive computational assets would be wasted if the simulation were to be continued. Applicant's did not challenge the Official Notice and relied upon the Official Notice in their arguments re 112(1).

4. However, The prior art of record while disclosing the templates and their modification, does not disclose the generic template, ***as defined in the specification***, and its modification, ***as defined in the specification***.

5. Therefore, the prior art of record does not anticipate, render obvious or read on the claims and the claims do not read on the prior art.

Art Unit: 2128

6. Applicant's arguments filed 5/9/2003, 11/26/2003 and 6/21/2004 have been fully considered and they are persuasive.

7. Full faith and credit is given to applicants that they have fulfilled their duty to disclose.

8. The 112(1) rejections are withdrawn. The specification is enabled to the extent of the express teachings in the specification.

9. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

10. Any inquiry concerning this communication or earlier communications from the examiner should be:

directed to:

Dr. Hugh Jones telephone number (703) 305-0023, Monday-Thursday 0830 to 0700 ET, **or** the examiner's supervisor, Jean Homere, telephone number (571) 272-3780.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist, telephone number (703) 305-3900.

mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

Art Unit: 2128

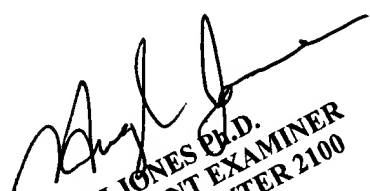
(703) 308-9051 (for formal communications intended for entry) *or*

(703) 308-1396 (for informal or draft communications, please label "*PROPOSED*"
or "*DRAFT*").

Dr. Hugh Jones

Primary Patent Examiner

October 26, 2004



HUGH JONES Ph.D.
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